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10 Appearing on behalf of Defendant
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12 Roths I.G.A. Foodliner, Incorporated;
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4	FOR THE PLAINTIFF:	
5	DR. DAVID BURNS	
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5 (Court was reconvened at 9:10 a.m.)

7 MR. WOBBROCK: Good morning, Your Honor.
8 MR. PHILLIPS: Good morning, Your Honor.
9 THE COURT: Any matters for the Court before we
10 bring in the jury?

11 Let's bring in the jury, please.

12 I presume all parties and their assistants are
13 rightly divided in the courtroom.

14 MR. DUMAS: Several of them have been chased into
15 the back row, Your Honor.

16 MR. TAUMAN: The courtroom may tip now.

17 (laughter in courtroom)

18 (Jury entered the courtroom at 9:12 a.m.)

19 THE COURT: All right.

20 Good morning, members of the jury.

21 JURORS: Good morning.

22 THE COURT: How are you guys feelin

23 JURORS: Excellent.

24 THE COURT: Going to have another goo

25 JURORS: Certainly.

1 THE COURT: All right.
2 Let's get started.
3 Counsel, you may proceed.
4 MR. PHILLIPS: Thank you, Your Honor.
5

6 (DR. DAVID BURNS resumes the witness stand)
7

8 CROSS EXAMINATION (continued)

9 BY MR. PHILLIPS:

10 Q Good morning, Dr. Burns.
11 A Good morning.
12 Q When last we spoke, I was tossed upon the seas of
13 epidemiology, and the good judge looked down upon me as I
14 looked seasick and he said: The day will end.

15 And I'm sure glad it did.

16 (laughter in courtroom)

17 But let me see if I can review where we were so we
18 can start off, both you and I and the jury, are on the same
19 page, all right?

20 A That's fine.

21 Q You candidly told the jury yesterday that for 35
22 years the epidemiological studies that showed that low tar
23 was safer, less hazardous, than a regular tar cigarette.
24 Those studies were studies that -- and the public health
25 authorities believed, took account of how a smoker smoked a

1 cigarette, correct?

2 A I don't think that's quite correct. An
3 epidemiologic study starts out, okay, with an assumption
4 that the two populations are similar with the exception of
5 the difference that you're looking at; in this case, the
6 type of cigarette that they smoked. When they are not
7 identified, as they commonly are not, you have to adjust for
8 the differences in those two populations. So what was
9 commonly done is you adjust for age and things that are
10 normally different, and they adjusted for numbers of
11 cigarettes. There wasn't an understanding at that time that
12 there could be a clear interaction between the choice of
13 cigarette and that variable that you were trying to control
14 in the analysis, the dose of smoke exposure that they were
15 getting.

16 Q And this was the point you made yesterday that
17 very recently, you believe in looking at that data, those
18 studies didn't control for that, right?

19 A The epidemiology itself didn't have a mechanism by
20 which they could adjust for those differences in selection,
21 self-selection, between the two populations.

22 Q I'm going to approach our board here for a second,
23 if I can.

24 A Sure.

25 Q And again, I would like to use words that I can

1 repeat without stumbling over.

2 I apologize for the sunshine. You let me know if
3 that's a problem for you. We can close the blind.

4 We talked about two kinds of compensation, do you
5 recall?

6 A Yes.

7 Q And these two are all the kinds of compensation
8 that a smoker can undertake to change the amount of tar and
9 nicotine they get, correct?

10 A Pretty much, yeah.

11 Q And we said there's one kind that's within the
12 cigarette, and there's one that just is the number of
13 cigarettes, how many you smoke, right?

14 A Yes.

15 MR. PHILLIPS: So maybe just if I can take the
16 liberty -- and I've marked this exhibit, by the way for
17 the record, that's Defendant's Exhibit 1476, Your
18 Honor.

19 THE COURT: Okay.

20 BY MR. PHILLIPS:

21 Q This says how many you smoke, right?

22 A Yes.

23 Q Okay. And this one is how you smoke the
24 cigarette; is that fair?

25 A Well, how much you get from the cigarette, yes.

1 Q But how much you get is how you smoke it. And
2 we've described all those things, right?

3 A Yes.

4 Q I'm just trying to get a term that you and I can
5 use that we can repeat this morning that we can live with
6 and be comfortable with and would make sense.

7 This is how --

8 A The only reason I question that --

9 Q Go ahead.

10 A -- is that "how" relates to a behavior.

11 Q Right.

12 A And these are really attempts to look at dose. So
13 it's really how much rather than how.

14 Q Okay.

15 A But if you would like to simplify it, that's fine
16 by me.

17 Q Well, I don't want it to be confusing. But "how
18 much" sort of sounds like "how many". How many is the
19 number of cigarettes they smoke, right?

20 A Yes.

21 Q And this is the dose change that they can get by
22 how they smoke, is that fair?

23 A Yeah.

24 Q Okay.

25 And you said yesterday that you testified a year

1 ago in front of a jury in New York state that you believed
2 that the epidemiological studies that had led the Public
3 Health Community to recommend to people like Michelle
4 Schwarz for the last 35 years that if they don't quit, go to
5 low tar cigarettes, like Merit cigarettes; that those
6 studies did measure the impact of how they smoke; is that
7 correct?

8 A That's correct.

9 Q Okay.

10 Now, I don't want to leap into the reasons why you
11 think that's no longer true. But that conclusion was what
12 informed the Public Health Community's recommendations to
13 the public for 35 years, is that right?

14 A I think that's over-simplistic. The fact that
15 there was consistent result across the epidemiologic studies
16 and across the experimental studies on compensation led the
17 Public Health Community to say: It looks like when they use
18 different cigarettes in the laboratory, they get different
19 amounts; and it looks like in the epidemiology, there is a
20 different risk. So you put those two together and people
21 who shift probably get a difference in risk. There were
22 never any studies that looked directly at people who
23 shifted. It wasn't -- we didn't have a population of people
24 that we could look at risk and shift -- with a shift. So
25 what we were really doing was extrapolating from a cross

1 section at a single point in time to what would happen if
2 people changed their cigarette going forward.

3 Q Well, just to be clear, you talked now about two
4 different studies, and I don't want to confuse the matter.
5 Right now we're talking about epidemiological studies.

6 A Right.

7 Q These are studies that show how much disease a
8 population gets --

9 A Right.

10 Q -- that's right?

11 And that's the ultimate test of whether something
12 is more or less hazardous, whether you're getting more or
13 less disease, right?

14 A Yes. But the ultimate test is in the death rates
15 and in the population rather than just the study.

16 Q Okay. But the benefit of an epidemiological study
17 is you can speculate about how smokers are smoking, whether
18 they're taking more or less nicotine in with a low tar
19 cigarette. But the bottom line is what the disease result
20 is for that population of smokers, right?

21 A Bottom line that you measure is the disease, yes.

22 Q Okay. And what we're talking about right now are
23 those epidemiological studies which measured the amount of
24 disease. I want to limit myself to that for the time being,
25 okay?

1 A Okay.

2 Q We'll talk about -- we'll get to the studies of
3 compensation. Okay. I want to get to those, but I want you
4 to hold this for a little while, all right?

5 A Okay.

6 Q All right.

7 The epidemiological studies -- and, again, I want
8 to be clear because I want to understand what the Public
9 Health Community believed in making these recommendations.

10 A Right.

11 Q Until this past year, the Public Health Community
12 believed that those studies measured the impact of how they
13 smoke, correct?

14 A They didn't measure it. When you control for
15 numbers of cigarettes per day, it included an adjustment
16 within cigarette for the differences in the way people
17 smoked.

18 Q And just so the jury understands this, what you're
19 saying is they were seeing studies of human populations,
20 people who smoked high tar cigarettes, people who smoked low
21 tar cigarettes, right?

22 A Yes.

23 Q They were seeing that the smokers who smoked low
24 tar cigarettes, at least based upon their studies of the
25 populations, in fact, got less disease, correct?

1 A That's correct.

2 Q Got less lung cancer, right?

3 A That's correct.

4 Q Okay. And they were getting less lung cancer,
5 even though they may be to one degree compensating in how
6 they smoked, correct?

7 A That's correct.

8 Q Okay. And, therefore, even though they may be
9 compensating in one form or another in terms of how they
10 smoke, that didn't alter the Public Health Community's
11 recommendation to people like Michelle Schwarz that she
12 should switch to a low tar cigarette if she doesn't quit
13 because the data in the epidemiology, as believed by the
14 public health community, suggested that there was less
15 disease for low tar smokers, no matter how they smoked the
16 cigarette; isn't that fair?

17 A Well, I -- I don't think that's fair. I think
18 that what is fair is that the Public Health Community didn't
19 understand that these two populations of individuals weren't
20 similar enough to be compared as they were being compared in
21 the epidemiologic studies. And, therefore, yes, the Public
22 Health Community was deluded, if you will, into believing
23 that this difference was one that was produced by the
24 cigarette that they were smoking rather than the differences
25 that were in the two populations.

1 Q All right. I mean, I do want to get to your new
2 conclusions, the ones that have changed your perspective in
3 terms of whether or not low tar are safer, but I just want
4 to put ourselves back in the frame of mind that Dr. Hammond
5 would have been in in 1975, let's say, or 1976 when he did
6 his epidemiological study for the American Cancer Society
7 and he recommended to smokers to go to low tar cigarettes,
8 if they don't quit -- maybe let me stop there. Because the
9 Public Health Community never told smokers that low tar was
10 safe, right?

11 A No, the recommendation was always to quit. And if
12 you can't quit, switch.

13 Q And, in fact, the only way to truly reduce risk
14 was to quit, isn't that right?

15 A Well, that's not what -- unfortunately, that's not
16 the advice we gave. That turns out to be correct, but that
17 was, unfortunately, not the advice we gave.

18 Q Well, I need to make my question more clear.

19 Even back in the '70s, the Public Health Community
20 was telling smokers: The only way to truly dramatically
21 reduce your risk was to quit; correct?

22 A What they said was: The best way to reduce your
23 risk is to quit.

24 Q All right.

25 A If you can't quit, there is a benefit in switching

1 to low tar cigarettes.

2 Q Okay. But the benefit wasn't a very significant
3 benefit, even then, was it?

4 A Well, we talked about that yesterday. We said
5 that there was a 20 percent reduction. And 20 percent would
6 have been a lot of people who were still alive over the last
7 20 years.

8 Q I'm just going to stay with this point a little
9 longer so we can move on. But I want you to divorce
10 yourself from what your new analysis, your brand new
11 analysis of whether you think they were right 30 years ago.

12 A Okay.

13 Q And I just want you to put yourself in the mind of
14 Dr. Hammond in 1976; all right?

15 A All right.

16 Q And Dr. Hammond believed that no matter how the
17 low tar smoker actually smoked the cigarette, whether he
18 covered vent holes, whether he did this, that or the other
19 thing, the epidemiological studies measured the impact of
20 that kind of compensatory behavior, and that it still showed
21 a reduced risk. That was the operative assumption, wasn't
22 it?

23 A That was the assumptions built into the analysis.
24 But if you read what Dr. Hammond said, Dr. Hammond actually
25 was really quite cautious, and he said that he was very

1 concerned about compensation and about whether the studies
2 were taking compensation appropriately into account. And so
3 he never concluded in his paper that there was a risk
4 reduction. He just said: This data suggests that it might
5 be true if compensation wasn't occurring. And so he was
6 actually much more cautious; and, in retrospect, that
7 caution clearly was warranted.

8 Q Well, but in the message -- I'm going to move back
9 here.

10 The message that you gave to people like Michelle
11 Schwarz when you weren't writing epidemiology studies was
12 simply what you just said: Quit. But if you don't quit,
13 switch to low tar, right?

14 A Well, in '81, the message we gave was that there
15 is a benefit if you don't increase -- if you don't increase
16 the number of cigarettes that you smoke per day. That
17 technically is probably true. Unfortunately, it's a
18 statement akin to saying to somebody who has a problem with
19 alcohol that they can drink as long as they only drink one
20 drink. It's something that's technically accurate. It just
21 isn't advice that people who are smoking follow.

22 Q Well, we'll talk -- we're going to talk about the
23 1981 report. But just to be clear, in the 1981 report,
24 Dr. Burns, you made it very clear that you believed that
25 smokers should switch to a low tar cigarette if they don't

1 quit, and you believed that the science supported that,
2 correct?

3 A Yes. That was the recommendation based on the
4 science from that report.

5 Q And you were -- you described in detail in the
6 1981 report, did you not, all of these characteristics of
7 compensation we've been talking about, correct?

8 A We described them as potential.

9 Q All right.

10 A We actually had very little detail on the actual
11 experience of smokers in those modes of compensation.

12 Q All right.

13 But in any event, when we look at what you and
14 your colleagues in the Public Health Community were telling
15 people like Michelle Schwarz, the message was: Switch to
16 low tar cigarettes if you don't quit; is that fair?

17 A You're accurate, although the way we phrased that
18 message was kind of important. We said: Quit. If you
19 can't quit, switch to low tar cigarettes.

20 We never really put the switch to low tar
21 cigarettes first.

22 Q That's fair. The first message was: Let's quit.

23 A That's correct.

24 Q If you don't quit, then go to low tar. And that
25 was always the message, right?

1 A That was always the message.

2 Q And that message was a message that you were
3 providing -- you wouldn't be surprised if you were providing
4 to your own patients in the mid '90s, is that right?

5 A Which message, to quit?

6 Q Quit. But if you don't quit, go to low tar.

7 A Unfortunately, that was indeed the message I
8 provided to patients in those years.

9 Q In fact, in the year 2000, less than a year and a
10 half ago, Dr. Burns, you wrote in the National Cancer
11 Institute -- Journal of the National Cancer Institute in an
12 editorial, which you were one of the authors of, that low
13 tar cigarettes may well reduce a smokers's risk of disease,
14 including lung cancer. That's what you wrote, right?

15 A I did not write that, but I certainly signed on as
16 an author of that editorial, yes.

17 Q So you were an author, but you didn't write the
18 words, is that what you're saying?

19 A Right.

20 Q And you signed off because you believed it at the
21 time.

22 A Yes, that it was consistent with the evidence at
23 that time.

24 Q All right.

25 And in that same journal in 19 -- or in the year

1 2000, which is after Michelle Schwarz passed, you -- there
2 was an article by an individual, a scientist, by the name
3 of -- I'm not sure I'm going to pronounce that right --
4 Djordevic; is that right?

5 A Yes. That's the article that we wrote the
6 editorial about.

7 Q And Dr. -- was it Dr. Djordevic?

8 A It certainly is.

9 Q He found -- and he tried to control for these
10 kinds of things?

11 A She.

12 Q Excuse me. Forgive me. My bad assumptions.

13 He -- she found that looking at people who smoked
14 high tar and switched to low tar -- and trying to control
15 for these kinds of things, that low tar cigarettes had about
16 a 25 percent less exposure to tobacco specific nitrosamines
17 than smokers of medium tar -- not even high tar, but medium
18 tar cigarettes. That's what she found, correct?

19 A No, that's not really what she found. What she
20 did was she looked at a cross section of people. And she
21 found that when you look at people that smoke less tar
22 cigarettes, they are less intent smokers, they derive less
23 nicotine from those cigarettes. They don't work those
24 cigarettes as hard in the nicotine. In that context, they
25 also get less tar. They don't look at people who smoked

1 medium or high tar and then switched to other cigarettes.

2 Q All right. Let me make sure I understand the
3 distinction that I think you're trying to make, and it's an
4 important distinction for the jury to understand as we go
5 forward this morning.

6 A Sure.

7 Q What you are saying is she looked at low tar
8 smokers, and they were less intense smokers is that right?
9 Did I hear you correctly?

10 A That's correct. That the populations of people
11 who chose those brands of cigarettes were different at the
12 start. And that the differences between those groups were
13 due to differences at the start, not differences due to the
14 cigarette.

15 Q Okay. And for whatever reason, those low tar
16 smokers were drawing less or fewer tobacco specific
17 nitrosamines into their system smoking a low tar cigarette
18 than a high tar cigarette, right, or even a medium tar?

19 A Yes. If you smoke less, you will get less
20 nicotine and less tar.

21 Q And it was those conclusions that led you to say
22 in that Journal in the year 2000 that low tar cigarettes
23 may, indeed, reduce risk of cancer and lung cancer, right?

24 A No, it is not. What led to that conclusion was
25 the existing epidemiology at that time. Until we had

1 completed a review we did for the National Cancer Institute,
2 the current review of the epidemiology suggested that there
3 may be a reduction in risk.

4 Q Let me show you something from 1976.

5 This is Exhibit 914, if you can look on your -- it
6 may be better for you to look on your monitor because of the
7 sun.

8 I'm wondering if I might close the blind so the
9 jury can see better.

10 THE COURT: You might, because the sun is shining
11 on here, yes.

12 (pause in proceedings)

13 MR. DUMAS: They've got it, Mr. Phillips.

14 MR. PHILLIPS: Oh. Great. Thanks.

15 THE COURT: Alert jury.

16 (laughter in courtroom)

17 MR. PHILLIPS: All right.

18 (Thereupon, a video was played)

19 Q That nice article, that's perfectly consistent
20 with the public health message that was being sent out to
21 American citizens in 1976, correct?

22 A Yes, it is. I mean, it's Dr. Hammond discussing
23 his own work, the work of the American Cancer Study that
24 we've discussed here.

25 Q Okay. And nothing in that report said anything

1 about low tar or better if you don't compensate, correct?

2 A Nothing in that report said that. In the report
3 that Dr. Hammond wrote presenting that research, he
4 extensively discussed his concerns about compensation.

5 Q But, again, part of the reason that this wasn't in
6 this news article was the fact that basically researchers
7 believed that they were measuring the differences between
8 high tar smokers and low tar smokers. And if low tar
9 smokers had a different way of smoking their cigarettes that
10 had an impact on health, that that would be measured in the
11 epidemiology. That's what they believed, right?

12 A Well, technically what they believed was they were
13 measuring the differences between the cigarettes smoke on
14 those populations. There's no question they were measuring
15 the difference between the two populations. The issue was
16 whether the assumptions, the two populations at the start,
17 were similar and could be compared, and that any difference
18 between them would be due to the cigarette that they smoked
19 was the one that they were using to draw their conclusion.
20 That assumption, which they clearly outlined as a concern,
21 is one that turns out not to have been true.

22 Q All right.

23 And no one -- you nor anyone else -- tried to
24 print a retraction when that news went out to the public,
25 right? That was the message you wanted to get out to the

1 public, right?

2 A That was the message we believed to be true in
3 1981 and for a substantial period of time after that.

4 Q All right. All right.

5 Now, let's turn to compensation studies, all
6 right?

7 A Uh-huh.

8 Q What we're -- I want to shift the direction here
9 because what we've been talking about is the studies of
10 disease in human populations, right?

11 A That's correct.

12 Q And the belief by the government, by the public
13 health authorities for 35 years, that low tar did provide
14 some benefit to consumers in reducing disease; fair enough?

15 A That low tar cigarettes delivered low tar, yes,
16 that's correct.

17 Q Well, and the conclusion that smokers of low tar
18 cigarettes had less disease. That's what they were telling
19 the public. That's what that news article was, right?

20 A That's right. The delivery of less tar delivered
21 less disease, that's correct.

22 Q All right.

23 Now, compensation studies are just studies to try
24 to determine -- looking just at whether or not the
25 population smokes more cigarettes when they switch to low

1 tar or they smoke the cigarette differently. Those are the
2 two kinds of ways you look at compensation, right?

3 A That's correct.

4 Q Okay.

5 Now, compensation has been studied for 40 years,
6 right?

7 A That's correct.

8 Q And, in fact, we'll get to the FTC method in a
9 little while. But, in fact, the FTC and Philip Morris and
10 the Tobacco Industry all recognized that smokers can control
11 the way they smoke a cigarette: Longer puffs, deeper puffs,
12 et cetera; correct?

13 A Yes. And they recognized that people smoke
14 differently, that's correct.

15 Q And, in essence, the term "compensation" is that.
16 It's the fact that smokers can smoke it differently, and, in
17 particular, differently than the FTC machine, right?

18 A No. What "compensation" means is that you
19 maintain your dose without regard to the cigarette that
20 you're smoking; that is, if you give someone a cigarette
21 with a different amount of nicotine in it, they will adjust
22 the way they smoke it to preserve a constant level of
23 nicotine.

24 Q Well --

25 A That's what "compensation" --

1 Q -- excuse me.

2 A -- really means is you're adjusting the way you
3 use the product to maintain a dose of exposure.

4 Q Well, we do need to get our terms right. I want
5 to use the same terms that you're using.

6 But what you just described, at least to my
7 understanding, is complete compensation, correct?

8 A It's -- yes. If it's full, then it's called
9 complete compensation. If people adjust upwards but don't
10 go all the way, then it's called partial compensation.

11 Q All right. I'll use those terms, all right?

12 A Excellent.

13 Q So in other words -- and I'm going to approach
14 this again, if I can, Your Honor.

15 THE COURT: Certainly, counsel.

16 BY MR. PHILLIPS:

17 Q If a smoker -- when -- when she switches to low
18 tar, if she does some of these things, but doesn't get the
19 same tar and nicotine that she got with her high tar
20 cigarette, then she would be doing something you would call
21 partially compensating; correct?

22 A That's correct.

23 Q Okay. But if she did these things and got the
24 same amount of tar and nicotine that she got with her
25 previous high tar cigarette, then she would be completely

1 compensating; is that fair?

2 A That's fair.

3 Q Okay. And -- I won't complicated it. I had a
4 question about how many cigarettes.

5 A Okay.

6 Q All right.

7 Now, the studies of compensation that have been
8 done over the years, including studies well into the '90s,
9 suggested -- and I want to -- I know -- let me stop for a
10 second.

11 I know you want to talk about two different kinds
12 of compensation studies: Experimental studies --

13 A Uh-huh.

14 Q -- and what I think you call spontaneous brand
15 switching studies.

16 A Yes.

17 Q Right?

18 A Yes.

19 Q Okay. So the fact that I know you want to do
20 that, I just want to alert you to the fact that I want to
21 talk about experimental studies first, okay?

22 A It doesn't surprise me that you don't want me to
23 do what I want to do.

24 (laughter in courtroom)

25 Q Fair enough. All right.

1 Experimental studies of compensation, just so the
2 jury understands -- there are so many terms we're using
3 here -- those are studies that are sort of like you could
4 almost call them laboratory studies, right?

5 A Well, there's two kinds of experiments. One is
6 done in a laboratory where they bring somebody into the lab
7 and sit them down and have them smoke a cigarette with an
8 apparatus attached to the cigarette, yes.

9 Q Okay.

10 A And the other type of experiment, you say to
11 someone: I want you to change from this cigarette to this
12 cigarette today. And then come back in tomorrow or a week
13 or whatever, and we'll look at how you smoked.

14 Q So it's a forced brand switching, in essence,
15 right?

16 A Well, it's an experiment.

17 Q Right.

18 A You tell one group to do -- to smoke this
19 cigarette and another group to smoke this cigarette. You
20 are controlling in a experimental way what's happening to
21 that individual.

22 Q Okay.

23 And over the last three decades or so, those
24 experimental studies of compensation have often shown that
25 compensation is partial or temporary, is that correct?

1 A That's correct.

2 Q So in other words, the studies that were done by
3 scientists like Dr. Benowitz and others --

4 A That's correct.

5 Q -- showed that smokers did partially compensate
6 when they switched from high tar to low tar, but they didn't
7 completely compensate; fair enough?

8 A That's correct. In the experimental setting, that
9 was the observation.

10 Q In fact, Dr. Benowitz testified about an article
11 he wrote in which he was proposing regulation to have a low
12 nicotine cigarette to wean the population off nicotine. Do
13 you remember that article?

14 A Yes, I do.

15 Q And he said -- I believe it was 1994, perhaps
16 1996, but I'll stand corrected if you recall -- he said that
17 overcompensatory smoking appears to be short term. Do you
18 recall that?

19 A Yes, but overcompensatory smoking is a different
20 phenomenon. That's when you get even more than when you
21 started out. So that's a very different phenomenon than
22 what we're talking about.

23 Q All right.

24 A One would not expect that to persist very long.

25 Q Okay. But that was one of the issues that in the

1 experimental studies the researchers were looking at. In
2 other words, if you got a smoker, and they're switching from
3 high tar to low tar, maybe initially when they begin smoking
4 a low tar they will compensate by puffing more or smoking to
5 a lower butt, or any of these items which we talked about,
6 right?

7 A Yes.

8 Q But the experimental evidence for three decades,
9 at least was suggestive that that wasn't really long term;
10 isn't that right?

11 A No, I don't think that was true. It was clear
12 that there was long term compensation. Some of the modes of
13 compensation appeared to be transient with the exception,
14 perhaps, of the number of puffs and the puff volume. Both
15 of those appeared to be longer term forms of compensation,
16 even in the experimental study.

17 Q And you said "transient". You mean short term
18 when you say "transient", right?

19 A Short term, yes.

20 Q So some of them appeared to last for a longer
21 period of time, some of them appeared to be relatively short
22 term, right?

23 A That's correct.

24 Q And, of course, one of the problems with these
25 experimental studies from your perspective is that most of

1 them were pretty short term studies, right?
2 A That's correct. And they were experimental.
3 Q So that's two problems with them?
4 A That's right.
5 Q In other words, if you do studies for one week or
6 two weeks and you're forcing someone to change their smoking
7 behavior by going from high tar to low tar, you may not
8 truly measure what the long term impact is in terms of
9 whether compensation is partial or complete, right?
10 A That's correct.
11 Q You may not really measure what a real smoker
12 would do when he or she wanted to switch from a high tar to
13 a low tar cigarette.
14 A That's correct. That's the other reason why it is
15 a concern. You're forcing people to do something for
16 purposes of the experiment.
17 Q Okay.
18 A And they are likely to respond quite differently
19 when you do that than when they make a spontaneous choice.
20 Q All right.
21 So science has what it has, right? And the
22 studies, most of them were experimental studies. In fact,
23 until the mid '80s, all of them were experimental studies,
24 right?
25 A Yes.

1 Q And those studies suggested that while smokers do
2 partially compensate, they didn't suggest that smokers
3 completely compensate, right?

4 A That's correct. And they looked at compensation
5 only within cigarettes.

6 Q Right. In other words, those studies were looking
7 more at this column on the right than the column on the
8 left?

9 A That's correct.

10 Q There have been studies of the column on the left,
11 as well, have there not?

12 A There have.

13 Q And this is where it gets a little confusing
14 because they're both forms of compensation, right?

15 A That's correct.

16 Q But you're aware that over the last number of
17 decades, there have been studies by public health scientists
18 on how much compensation occurs within the cigarette, how
19 they smoke, correct?

20 A That's right.

21 Q And there have been studies of compensation in
22 terms of the number of cigarettes that a smoker smokes when
23 they switch, how many they smoke, correct?

24 A That's correct.

25 Q All right.

1 Now, Dr. Benowitz testified about spontaneous
2 brand switching studies.

3 A Yes.

4 Q And what he said was that the benefit of those
5 studies -- and those are more recent studies, right?

6 A They are, in general, more recent, yes.

7 Q Okay. Is that there you're looking at a
8 population of smokers, and you're not forcing them to do
9 anything, right?

10 A That's correct. You're not -- you're not forcing
11 them to switch --

12 Q Switch.

13 A -- the brands. That's right.

14 Q And there you might get a better impression of how
15 a real smoker in the marketplace does actually change their
16 smoking behavior when they switch, right?

17 A That's correct.

18 Q You might be able to measure whether they smoke
19 more cigarettes, correct?

20 A Uh-huh, that's right.

21 Q And you might be able to measure how they smoke
22 the cigarette?

23 A That's correct.

24 Q And you won't have any of the interference of an
25 experimental setting where you're essentially forcing them

1 to do it.

2 A You don't have that form of interference. There's
3 another form of interference that occurs, but not that one.

4 Q And you also, if you do it long enough, then,
5 hopefully, you capture whatever impacts there are from
6 transient or short term changes, correct?

7 A That's correct. If it's over a long interval, you
8 would not see compensation changes that were short term.
9 The problem is, you see other changes that are based on the
10 reasons why people change to a low tar brand.

11 Q All right.

12 Now, this idea of compensation was raised -- oops,
13 excuse me -- was raised by Dr. Russell.

14 You're familiar with Dr. Russell?

15 A Yes, I am.

16 Q And in 19 -- the early 1970s, he indicated that he
17 believed that while low tar cigarettes clearly benefited the
18 public, that there was a problem with low tar/low nicotine
19 cigarettes, right?

20 A Well, you would have to -- he had many postulates
21 that he put forward. In general what he was saying was that
22 the solution he was recommending was to add nicotine to
23 cigarettes to produce a high nicotine/low tar cigarette.

24 Q So he was suggesting having a low tar/high
25 nicotine cigarette?

1 A That's correct.

2 Q Okay. That you should add nicotine to the
3 cigarette?

4 A That's what he was doing in his experimental
5 studies that were showing the results of decreased tar
6 intake with a high nicotine cigarette.

7 Q These are experimental studies like the ones we're
8 talking about, compensation studies, correct?

9 A That's correct.

10 Q All right. And he indicated that to switch to the
11 filter-tipped low tar cigarette had done more to reduce
12 smoking related disease than of two decades of health,
13 education and antismoking propaganda. That's what he said,
14 right?

15 A That's what he said. I doubt that there was a
16 solid substantiation for that. But, yes, that was his
17 statement.

18 Q But at the same time he was saying that, he said
19 there was a rub. He said most smokers --

20 MR. WOBROCK: Your Honor, this is not in
21 accordance with the rules of evidence. He has not
22 asked this witness if he recognizes this document, he's
23 reading in hearsay into the record, and I object based
24 upon hearsay and improper -- if he's attempting to
25 impeach this witness, he hasn't asked this witness if

1 he recognizes this as authoritative. So under either
2 use, it's not used properly.

3 THE COURT: All right, counsel. Use it correctly.

4 BY MR. PHILLIPS:

5 Q Dr. Burns, you know Dr. Russell and you respect
6 him for his work, correct?

7 A Yes.

8 Q And Dr. Russell is an antismoking advocate, right?

9 A Yes.

10 Q And Dr. Russell was one of the first people to
11 have done some studies of compensation, experimental studies
12 of compensation, in the Public Health Community, correct?

13 A That's correct.

14 Q And, in fact, you cited Dr. Russell in the 1981
15 Surgeon General's Report for his work on experimental
16 compensation studies, correct?

17 A Well, we cited his work, yes. We didn't cite him.
18 We cited the published work that he had submitted, yes.

19 Q And that published work was work that you thought
20 was authoritative in 1991 with respect to the question of
21 studies -- experimental study of compensation, correct?

22 MR. WOBROCK: Excuse me, counsel.

23 The rules of evidence are, I believe, that he
24 identify the particular document that he is trying to
25 ask this doctor to recognize as authoritative?

1 THE COURT: Counsel, give him the specific
2 document you have reference to, please.

3 MR. PHILLIPS: Certainly.

4 Q Do you recall an article by Dr. Russell in June of
5 1976 called Low Tar Medium Nicotine Cigarettes, A New
6 Approach to Safer Smoking, by MAH Russell?

7 A If I could see the article that, would help.

8 MR. PHILLIPS: May I approach?

9 THE COURT: Surely.

10 THE WITNESS: Yes, I have seen this article.

11 MR. PHILLIPS: May I borrow it back from you,
12 please.

13 THE WITNESS: Sure.

14 BY MR. PHILLIPS:

15 Q And do you recall that this article was cited in
16 the Surgeon General's Report in 1981?

17 A That's correct. The data from the article, yes.

18 Q And the data from the article were his studies on
19 compensation, correct?

20 A Related to compensation right.

21 Q And did you recognize in 1981 that Dr. Russell's
22 work, the article that you've cited, was authoritative?

23 A Always I just told you earlier, some of the
24 expressions in that article are not authoritative. They
25 aren't ones that were based on a body of information that

1 was reasonable. The data that he generated was data that we
2 used, but certainly his statements about the contribution of
3 low tar/nicotine cigarettes to reducing the disease burden
4 being greater than all of the cessation efforts that had
5 occurred were not ones that I would consider authoritative
6 then or now.

7 Q What about his conclusions that smokers smoked for
8 nicotine and will compensate to get the amount of nicotine
9 when they switch to low tar cigarettes; did you consider
10 those authoritative at the time?

11 MR. WOBROCK: Your Honor, again, that's improper
12 impeachment. Unless the doctor recognizes the article
13 as authoritative, then to read it back to him or even
14 try to summarize it, or even ask if he agrees with it,
15 is improper impeachment and not allowed under the
16 Oregon Evidence Code.

17 MR. PHILLIPS: I'll show this to him.
18 You can hold on to it.

19 MR. WOBROCK: Unless the doctor has the
20 foundation that he recognizes the authoritative
21 document, trying to impeach him in this manner is
22 improper.

23 THE COURT: That is correct. The expert witness
24 on the stand must recognize the treatise that you are
25 attempting to impeach him on --

1 MR. PHILLIPS: Right.

2 THE COURT: -- as an authoritative document. If
3 he indicates it's not, end of story. We move on to the
4 next question.

5 MR. PHILLIPS: All right.

6 Q We've already talked about -- thank you, Your
7 Honor.

8 We've already talked about the fact that this
9 article is cited in the 1981 Surgeon General Report, right?

10 A That's correct. The data in the article.

11 Q And I believe you testified that you were either a
12 writer or an editor of that report, right?

13 A Yes.

14 Q Okay. And do you recognize that article as being
15 authoritative with respect to compensation, smoking for
16 nicotine at the time it was written and as you cited it in
17 1981?

18 A As I said, we don't recognize the article as
19 authoritative. The observations presented in the data are
20 the observations. Those observations were corroborated by
21 other studies, and the observation that there is
22 compensation downward when you add nicotine to a cigarette
23 is a correct observation.

24 THE COURT: All right. I think that we end right
25 here because as I listen to the doctor's testimony

1 directly, he indicated, as I said, we don't recognize
2 the article as authoritative. So you cannot continue
3 to question him about that article, counsel.

4 MR. PHILLIPS: All right. Thank you, Your Honor.
5 THE COURT: That will be the rules of evidence in
6 the State of Oregon.

7 MR. PHILLIPS: Thank you, Your Honor.
8 Q Let's just do this more generally.

9 You understood in 1981 that there had been a
10 number of studies in the Public Health Community regarding
11 the fact that if you went to a low tar/low nicotine
12 cigarette, that smokers may smoke to get more nicotine and
13 compensate, correct?

14 A That's correct.

15 Q All right. So you understood that in 1981,
16 correct?

17 A We understood it partially in 1981. The
18 perception in 1981 was that was a passive kind of
19 compensation, that it was due to the draw characteristics
20 and the presence of the holes in the filter. We didn't
21 really understand until much later that it was an active
22 compensation driven by the need for the ability to preserve
23 puff by puff ingestion of nicotine.

24 Q All right.

25 Now, let me show you another document, Doctor,

1 that is not a scientific article, not the Surgeon General's
2 Report. It's Exhibit -- Defense Exhibit 901.

3 This is a document that is in the Consumer Reports
4 in 1976, which is the same year that Michelle Schwarz
5 apparently switched to Merit cigarettes.

6 Are you familiar with this article?

7 A Yes, I believe --

8 Q This is not --

9 A I believe this is the --

10 Q -- excuse me.

11 A I believe this is the same year as Dr. Hammond's
12 study --

13 Q I didn't quite hear you, I'm sorry.

14 A I believe it's the same year that Dr. Hammond's
15 study came out of the press clip that you ran.

16 Q Okay.

17 A And this article is written, not as a scientific
18 article, but for the popular consumption, right?

19 A That's correct.

20 Q For people in the jury as opposed to scientists to
21 read, right?

22 A That's correct.

23 Q All right.

24 A And this study indicated -- and I would like to
25 draw up the paragraph, if I can, Mr. Walsh -- on the second

1 column, that begins "unfortunately".

2 This study said: Unfortunately, however -- and by
3 the way, you understand the article was generally about
4 whether or not lower tar and nicotine cigarettes actually
5 benefited smokers, right?

6 A Well, not having read the article, I can't tell
7 you what its conclusions are. But I'm assuming that that's
8 what it said.

9 Q All right. I'll ask you to assume that.

10 A And in this article, it said: Unfortunately,
11 however, the amount of nicotine in the bloodstream does not
12 necessarily decline when there's less nicotine in the smoke.
13 Nicotine is an addicting agent for most smokers. When
14 cigarette smoking contains less nicotine -- and by the way,
15 I don't know who put those dashes there, I apologize for
16 them -- when cigarette smoking contains less nicotine than
17 such smokers are accustomed to, their bodies simply contrive
18 ways to get more smoke.

19 Q You've read that quote with me?

20 A I have.

21 Q And what that's talking about is compensating to
22 get more nicotine, right?

23 A That's correct.

24 Q So in this article, it's talking about the fact
25 that a low tar/low nicotine cigarette may not be better for

1 you if you compensate to get -- or contrive ways to get more
2 smoke, correct?

3 A Well, it's saying that people who switch to those
4 cigarettes are likely to compensate, as I understand the
5 language.

6 Q Okay.

7 A Rather than it being a volitional act on the part
8 of the smoker.

9 Q Whether or not volitional, the point is that the
10 smoker could compensate, and the Consumer Reports identified
11 that in 1976, right?

12 A Certainly.

13 Q Okay.

14 Now, let's turn to the next page of the article,
15 if we can, Mr. Walsh, and I've -- you've got it more me,
16 thank you.

17 And in that article, they talk about in some
18 detail the ways that smokers can compensate. The bottom of
19 the page, there's a bullet point that says "smokers often
20 smoke", if you could get to that, please.

21 It says: Smokers often smoke a low nicotine
22 cigarette to a shorter butt. This alteration in smoking
23 pattern is particularly significant because the last few
24 puffs contain much more tar.

25 I'm going to approach this chart, which is

1 Defendant's Exhibit 1476, and that's one of the forms of
2 compensation we talked about; correct?

3 A That's correct.

4 Q I'm not seeing it here, but I know it's in here
5 somewhere.

6 A On the bottom, number eight.

7 Q Okay.

8 Can we go to the next one please, Mr. Walsh.

9 Some smokers also increase the size of each puff,
10 thus increasing the nicotine dose per puff, correct?

11 A That's correct.

12 Q And there's identified, correct?

13 A Yes, it is.

14 Q Some shorten the interval between puffs, thus
15 increasing the dose per minute, correct?

16 A That's correct.

17 Q Are there any others that are listed? I can't
18 tell because we've blown these up. I think those are the
19 ones that are discussed in the article.

20 A Okay.

21 Q All those kinds of compensation were well-known in
22 1976, correct?

23 A They were known as potential mechanisms by which
24 compensation could occur. The actuality of whether people
25 smoke them was not there.

1 Q All right. Well, let me put it this way. You
2 certainly agree that that the Surgeon General in 1981 knew
3 what Consumer Reports knew in 1976, right?

4 A I think that's true, yes.

5 Q Okay. All right.

6 Now, let's turn to the many studies that Philip
7 Morris did of compensation, some of which you talked about
8 to the jury yesterday.

9 A Yes.

10 Q Now, just so we're clear, you believe that the
11 kinds of spontaneous brand switching studies that have been
12 done more recently by Dr. Benowitz are a better indicator of
13 whether smokers partially or completely compensate when they
14 switch from high to low tar, correct?

15 A They're an additional piece of information. They
16 carry with them their own limitations. The reason why there
17 was a limitation is that the reason why people switch to low
18 tar cigarettes may be accompanied by other attempts to
19 change the amount of risk that they have. For example, they
20 may be trying to quit, they may be trying to taper down the
21 amount that they smoke, they may be trying to reduce the
22 number of cigarettes that they smoke per day. So to the
23 extent that they are successful in those efforts of
24 voluntarily trying to reduce how much they're smoking, you
25 will see less smoke exposure. So that's a limitation of the

1 voluntary switching studies.

2 Q But --

3 A But they do, indeed, look at the real world as
4 opposed to the laboratory world of the experimental studies.

5 Q Well, let's be clear. Every study has got
6 limitations, right?

7 A Well, I don't think that's a fair statement. The
8 issue here is how you use the information from the study.
9 And in order to use the information, you have to understand
10 what the population you are looking at is actually doing.
11 And so in looking at voluntary switching studies, you have
12 to appreciate that it's not simply the difference in the
13 cigarette that you're examining, even though when the data
14 are presented, it looks that way. You have to understand
15 why people would choose one brand or another to switch to.

16 Q And this is the complexity that you're grappling
17 with right now, right?

18 A That's correct.

19 Q And what I want to understand for the jury's
20 purposes here, is if you had an experimental study, and you
21 had a spontaneous brand switching study, it would be the
22 case that you would rely on the spontaneous brand switching
23 study as a better indication of whether or not a smoker who
24 switches is getting less tar and nicotine.

25 A Not automatically. What happens is that the

1 different studies give you different pieces of information.
2 The spontaneous brand study looks at what happens in people
3 when they make a voluntary choice. And that is not a study
4 that is controlled experimentally. It has limitations for
5 that reason. An experimental study is able to control what
6 happens to the person who is in the study, but by nature of
7 that control it's not something that they are doing under
8 their own will. So both studies have limitations, and you
9 look at the evidence from both kinds of studies when you are
10 trying to develop an understanding of what actually happens.

11 Q All right.

12 Well, we talked about the experimental studies
13 over the years have shown that generally compensation is
14 partial and short term, correct?

15 A That's correct.

16 Q Okay. And that means that when a smoker
17 switched --

18 A Well, let me be clear. There is compensation long
19 term. Those studies have shown compensation long term.
20 There are elements of that compensation that seem to
21 disappear over time. There are other elements that remain,
22 particularly puff volume and puff inhalation.

23 Q But taken together, the amount of compensation is
24 not complete in those studies, correct?

25 A There is partial compensation in those studies,

1 that's correct.

2 Q Which means that a smoker of low tar cigarettes
3 under those studies who switches actually gets less tar and
4 nicotine because they don't completely compensate, right?

5 A No. It means in an experimental setting when you
6 have people smoke two different brands of cigarettes under
7 direction, the person who smokes the lower tar brand of
8 cigarettes derives less tar. That's what those studies
9 mean. And you need to express it and understand it in the
10 context with which the study is done. Otherwise, you make
11 assumptions about what happens to people in the real world
12 that aren't valid.

13 Q All right. I thought I set the stage that these
14 were experimental studies, but I think you have agreed what
15 the results are from those studies.

16 Let's turn to the spontaneous brand switching
17 studies.

18 Dr. Benowitz concluded that under the spontaneous
19 brand switching studies, compensation overall was not
20 complete, correct?

21 A I don't believe that's --

22 MR. WOBROCK: Objection, Your Honor. I don't
23 believe that fairly characterizes Dr. Benowitz's
24 testimony. I think if he wants to put that to the
25 witness, he would have to put that in a hypothetical,

1 not quoting the doctor, particularly incorrectly.

2 BY MR. PHILLIPS:

3 Q I'm ask you to assume --

4 MR. DUMAS: Excuse me, Your Honor, if I may be
5 heard. Mr. Wobbrock is engaging in speaking
6 objections. I would ask him to state his objections
7 simply and to the point.

8 THE COURT: Very well, counsel.

9 Please proceed.

10 MR. PHILLIPS: I am on happy to -- excuse me, Your
11 Honor.

12 THE COURT: Please proceed.

13 MR. PHILLIPS: I'm happy to ask this in terms of
14 hypothetical.

15 Q I want you to conclude that Dr. Benowitz concluded
16 from his spontaneous brand switching studies that
17 compensation was not completed. Is that your understanding
18 of those spontaneous brand switching studies?

19 A No. I am very familiar with Dr. Benowitz's
20 opinions on this issue, having worked very closely with him.
21 His understanding is, in spontaneous brand switching,
22 compensation is essentially complete. What he showed in his
23 study is that when you have people who have switched six
24 years apart, there is a reduction in the number of
25 cigarettes that they smoke per day, but that the amount that

1 they get per cigarette winds up being identical and,
2 therefore, compensation is complete.

3 Q I'm going to put -- excuse me.

4 A The reason why they have switched the number of
5 cigarettes that they smoked per day as an average in the
6 population relates to the tendency over time of people
7 trying to reduce their risk by reducing the amount that they
8 smoke.

9 Q Okay.

10 I wanted to make sure that I and the jury
11 understand what you just said.

12 A Dr. Benowitz looked at both of these kinds of
13 compensations and spontaneous brand switching studies,
14 right?

15 Q That's correct.

16 A And what you're saying is, taken together, there
17 wasn't complete compensation because smokers smoked fewer
18 cigarettes when they switched, right?

19 Q That's correct.

20 A But within --

21 A Well, the smokers who switched report fewer
22 cigarettes being smoked per day, as part of the total change
23 over the six year period, yes.

24 Q All right.

25 A And in order to measure the total compensation,

1 you have to look at both columns, right?

2 A (pause) Yes, in the setting of trying to determine
3 how much nicotine and tar people are getting from those
4 cigarettes, that's correct.

5 Q All right. And what you're telling the jury is
6 that Dr. Benowitz' study showed that when you take both of
7 these into account, there was not complete compensation, but
8 only because people were smoking fewer cigarettes when they
9 switched from high tar to low tar.

10 A Well, if you interpret Dr. Benowitz's study
11 correctly, he showed it didn't make any difference what
12 cigarettes you smoked. It was only whether or not you were
13 able to reduce the number of cigarettes you smoked per se
14 that influenced how much you got.

15 Q And would you disagree with him if he testifies
16 that the total compensation -- the partial compensation
17 under both columns is about 75 to 80 percent?

18 A In his study, the net change in people, I believe,
19 was a 20 percent reduction in the dose of nicotine.

20 Q All right.

21 A That's a net change that is the result both of
22 shifting cigarettes and their efforts to reduce the number
23 of cigarettes that they smoke per day.

24 Q All right. Let's go to the Philip Morris studies
25 of compensation, all right?

1 A Certainly.

2 Q If I kept track of your testimony yesterday -- and
3 heaven knows I might not have because you covered a lot of
4 issues.

5 A Okay.

6 Q But let me see if I got correctly.

7 The first study you looked at was in Philip
8 Morris' files because you understand that Philip Morris
9 examined the question of the compensation of smokers.

10 A Right.

11 Q They examined it, just as the people in the Public
12 Health Community were examining it, right?

13 A That's correct.

14 Q In fact, that method was squarely posed when they
15 adopted the FTC method because it was clear then as it is
16 now that smokers can smoke cigarettes differently to get a
17 different dose of tar and nicotine, right?

18 A I don't think that's a fair statement. The
19 concern that the -- that was expressed to the FTC was that
20 the single measurement with a machine isn't going to tell a
21 smoker how much they get from that brand. The reason why
22 the testing was adopted was the belief that it would tell
23 the difference in dose between brands of cigarettes if the
24 same person smoked them. That was the push of the testing.

25 Q That's right. And just -- we're going to get to

1 the FTC method. I want you to hold that point.

2 A Okay.

3 Q But what you're telling the jury is that the
4 reason that the government adopted this method is because
5 even though it may not show that the smoker of a 8-milligram
6 cigarette gets 8 milligrams of tar, it would be able to
7 provide that smoker with a comparison between a 8-milligram
8 cigarette and, let's say, a 16-milligram cigarette?

9 A The government believed from the knowledge it had
10 at that time that it would allow someone who smoked a
11 16-milligram tar to switch to a 8-milligram tar cigarette
12 and receive a different dose.

13 Q All right. Are you agreeing with me on that
14 point, then? It was comparison first?

15 A The purpose was comparison between brands, yes.

16 Q All right. Fine.

17 Now, the first exhibit that -- I'm afraid that's
18 not the right exhibit. I'm sorry. I may have to show you
19 this on the screen, unless I can get some help from
20 Mr. Walsh.

21 Can you give me a moment, Your Honor?

22 THE COURT: Certainly, counsel.

23 MR. PHILLIPS: This is actually a pretty good time
24 for a morning break, if you want, Your Honor. It's up
25 to you.

1 THE COURT: Well, we're not opposed to taking a
2 break.

3 All right, ladies and gentlemen, let's take a
4 break.

5 (Jury leaves the courtroom at 10:10 a.m.)

6 (Court was reconvened at 10:25 a.m.)

7 THE COURT: All right. Bring the jury, please.

8 MR. PHILLIPS: I'm bringing up Exhibit 125.

9 MR. WOBBROCK: So are you done?

10 MR. PHILLIPS: Yeah.

11 THE COURT: Is this Defense 125?

12 MR. TAUMAN: No, Plaintiff's.

13 THE COURT: Plaintiff's 125.

14 MR. TAUMAN: They got into our box.

15 MR. PHILLIPS: Small though it may be. This is
16 that spare number of exhibits that Mr. Wobbrock keeps
17 referring to.

18 MR. DUMAS: Just a couple.

19 MR. PHILLIPS: The few 400.

20 MR. WOBBROCK: Trying to get it down to 25.

21 MR. PHILLIPS: Let me tell you about the hours I
22 spent reading exhibits, Your Honor.

23 MR. TAUMAN: You don't have --

24 MR. PHILLIPS: I lost a lot of sleep, Your Honor.

25 MR. TAUMAN: You don't have a Polaroid picture of

1 them.

2 MR. PHILLIPS: If I were as rhetorically adept as
3 he is, I would have.

4 (laughter in courtroom)

5

6 (Jury entered the courtroom at 10:25 a.m.)

7

10

12

13 Q Dr. Burns, we were moving into a discussion of the
14 compensation studies that Philip Morris did on its own to
15 try to understand how much smokers compensate; do you recall
16 my -- beginning a discussion of that with you?

17

18 Q And the first exhibit I want to show you is
19 Exhibit -- Plaintiff's Exhibit 125, because Mr. Wobbrock
20 showed that to you.

21

That's the cover page of it right there.

22

23 Q And I what I want to turn to is the introduction
24 of that study. And let me just see if I can remind the jury
25 of what that study did. And I believe it was your testimony

1 that the study looked at -- it was a one week study, right?
2 A I don't recall from memory, but if we could see
3 the study, I could help you out.

4 Q Okay. I didn't actually put this on the film, so
5 I'll just show you the page 161 of the study.

6 MR. WOBBROCK: Excuse me, counsel. I might just
7 refer Dr. Burns to the binders behind him.

8 MR. PHILLIPS: That's fine, too.

9 MR. WOBBROCK: I could help him, if the Court
10 would allow me to.

11 MR. PHILLIPS: This may be quicker.

12 THE WITNESS: One page is better than a binder.
13 (laughter in courtroom)

14 BY MR. PHILLIPS:

15 Q I have highlighted the study at the top. Take a
16 look, if you would.

17 A Uh-huh. It was a one week study. That's correct.
18 If I could hang on to this.

19 Q Yeah, you may. Just as long as I get it back.

20 A You can have it back.

21 MR. WOBBROCK: Your Honor, if I might, I could
22 turn to that very quickly, and he could have the whole
23 thing.

24 THE COURT: All right. Do you have one right
25 behind you?

1 MR. WOBBROCK: I have one right here.
2 THE COURT: Doctor, we have one right behind you.
3 I assume it's in the second binder.
4 THE WITNESS: Okay. My experience with binders is
5 that when I touch them, I drop them all over.
6 THE COURT: I know what you mean.
7 (laughter in courtroom)
8 MR. PHILLIPS: Mine, too. I hate them.
9 THE WITNESS: So I will let someone else deal with
10 that.
11 MR. PHILLIPS: Shall I steal that back from you?
12 THE WITNESS: Well, I can read it while we're
13 getting situated here.
14 MR. PHILLIPS: You bet.
15 THE COURT: It should be near the end.
16 MR. WOBBROCK: Yeah, it should be the last one, I
17 believe.
18 THE COURT: 125.
19 MR. WOBBROCK: Thank you, counsel.
20 MR. PHILLIPS: You bet.
21 Q I have a question for you, but I don't want to --
22 A Okay, well, go ahead.
23 Q Okay.
24 A If I need to refer, I will.
25 Q The question I had was, this was a one week study,

1 right?

2 A It was a one week study.

3 Q All right.

4 And I believe it was your testimony that the
5 researchers in that one week study -- and this was an
6 experimental study, right?

7 A Well, it was not only a experimental study, it was
8 a study with experimental cigarettes, yes.

9 Q So it wasn't -- just to contrast, it wasn't a
10 spontaneous brand switching study?

11 A That's right.

12 Q Okay. And I believe it was your testimony that
13 what the researcher found in that study was that the smokers
14 in that one week study with these research cigarettes, when
15 they switched to a lower tar and nicotine cigarette, did
16 compensate. And then there's a discussion about either more
17 for tar and a little less for nicotine, they weren't sure
18 which; is that fair?

19 A They weren't sure which, but at the end, I
20 believe, they felt that they were compensating more for
21 nicotine than for tar. But initially the question was
22 whether it was tar that people were seeking or nicotine, and
23 they did not resolve that in the article.

24 Q Well, let's turn to page 20 of the study, because
25 there's not my understanding of the conclusion.

1 Are you with me, page 20, sir?

2 A Yes.

3 Q And I'm looking -- this is the language I believe
4 Mr. Wobbrock read with you at the bottom of page 20, and I'm
5 beginning with the sentence "this".

6 Maybe I should show this for the jury so that they
7 can read along with us.

8 Okay. I'm looking at the bottom of the page, and
9 this is where they were talking -- this is the end of the
10 study, right?

11 A Uh-huh.

12 Q (pause).

13 A Yes.

14 Q Okay. And I'm looking at the sentence: This
15 tendency to compensate to maintain a constant nicotine
16 intake, was not, however, as strong as his tendency to
17 maintain a constant tar intake.

18 A That's correct.

19 Q Does that refresh your recollection that the
20 study, at least in that conclusion, suggested that the
21 tendency to compensate was more to maintain the same amount
22 of tar than nicotine?

23 A Well, the conclusions are expressed in multiple
24 ways in the study. And at the top, it says it suggests that
25 the tar deliveries of the current best selling cigarettes

1 could be reduced somewhat, leaving nicotine as it is. That
2 would suggest that nicotine was the more important of the
3 two determinants rather than tar. So the author is
4 conflicted in looking at their own data as to which is more
5 important.

6 Q All right. So we'll leave it at that. It was
7 conflicted as to which was more important, is that fair?

8 A That's correct.

9 Q All right.

10 Now, at the beginning of that study on page three,
11 there's an introduction, if we can zoom in on the first
12 paragraph of the introduction.

13 And in that, the Philip Morris researcher says --
14 Why does the smoker continue to smoke? It has frequently
15 been suggested that the habitual smoker continues to smoke
16 because of the -- I believe the word should be --
17 pharmacological effects of the nicotine in the cigarettes.
18 For instance, according to Kuschinsky and Hotovy -- that's
19 Larson, Haag and Silvette, 1961 -- man smokes not in spite
20 of, but because of nicotine.

21 Let me stop there for a second.

22 What he's citing there is a published study,
23 correct?

24 A Two published studies.

25 Q All right. We'll get to the second one.

1 A Well, no, I mean --

2 Q Excuse me.

3 A Presumably Kuschinsky and Hotovy is published in
4 1943, and then --

5 Q Referred to --

6 A -- referred to --

7 Q -- in Larson Haag and Silvette.

8 A -- in Larson Haag and Silvette. That's right.

9 Q Fair enough.

10 A And that was a published study that was available
11 in the literature, right?

12 A That's correct.

13 Q And Larson Haag and Silvette you're familiar with
14 because that was a large volume that gathered all of the
15 research in 1961 regarding tobacco and health?

16 A That's correct.

17 Q And that was used extensively by the Surgeon
18 General in the 1964 report particularly with the impact of
19 nicotine, correct?

20 A It was a summary of literature that was
21 extensively used by them and others.

22 Q And it goes on and says: Along this line, one
23 persistent belief is that the smoker develops a daily quota
24 for nicotine. That's Neuberger, correct?

25 A That's correct.

1 Q And that was also a published study in the
2 literature, correct --
3 A That's correct.
4 Q -- for everyone to read, all the scientists to
5 review, correct?
6 A That's correct.
7 Q All right.
8 So the idea that there was a daily quota for
9 nicotine for something that was at least as a theory out
10 there and being discussed in the public literature, correct?
11 A That's correct.
12 Q All right.
13 And was what this researcher is doing is saying
14 that's the theory.
15 A That's what he says in that paragraph.
16 Q Let's remember that phrase "daily quota intake" as
17 we look at the remaining documents. "Daily quota", I guess.
18 But I think it also in the other documents refers to "daily
19 quota intake". And just for purposes of shorthand it,
20 that's compensation, right?
21 A Well, that's the requirement that the person is
22 seeking. Compensation is the changing in behavior that
23 makes the smoker get the requirements of that daily dose of
24 nicotine.
25 Q All right. So --

1 A Compensation is the method by which the daily
2 quota is arrived at.

3 Q All right. Fine. I think that's fair. I'll
4 accept that.

5 Now, Defense Exhibit 855 Mr. Wobbrock did not show
6 to you.

7 A Are you familiar with that document? It's a 19 --

8 Q Not without looking at it.

9 A All right.

10 A Sit in my binder here?

11 THE COURT: No, I don't think so. I think that is
12 the plaintiff's exhibits that you have there, Doctor.

13 THE WITNESS: Okay.

14 THE COURT: The defendants have their own
15 exhibits.

16 THE WITNESS: Okay. Well, then, I certainly can't
17 tell you from the number what it is.

18 MR. PHILLIPS: All right. I'll give you a copy of
19 it.

20 MR. WOBBROCK: Maybe I can request a question of
21 counsel so we can -- is this the earlier study of --

22 MR. PHILLIPS: No.

23 MR. WOBBROCK: All right.

24 MR. DUMAS: Mr. Phillips, here it is.

25 MR. WOBBROCK: Give us a moment to catch up here.

1 MR. PHILLIPS: This is Exhibit 855.

2 THE COURT: All right.

3 THE WITNESS: Okay.

4 BY MR. PHILLIPS:

5 Q Just to be clear for purposes of the chronology,
6 the study we just looked at was 1971, right?

7 A I believe so, yes.

8 Q Okay. And this study that you're looking at right
9 here, which is in Philip Morris files, this is a study in
10 the year 1973, correct?

11 A That's what it appears to be, yes.

12 Q Okay.

13 I am going to turn your attention to the summary,
14 and let's blow that up so we can read it a little more.

15 This is a summary of another study on
16 compensation, and it says: Two cigarettes with nominal
17 deliveries of 14.6 and 20.7 milligrams FTC tar were puffed
18 in similar fashion by in-house smokers, contrary to
19 expectations.

20 Do you see that?

21 A I see that.

22 Q And do you know what was meant by "contrary to
23 expectations"?

24 A I can't tell you with certainty. I'm assuming
25 that they expected that the people would smoke them

1 differently.

2 Q Okay.

3 A That's what my assumption was.

4 Q And this study, anyway, in the Results section,
5 showed that --

6 A Page six?

7 Q Yes, it is, Dr. Burns.

8 A Okay.

9 Q In the first paragraph, it says: Table one
10 summarizes the behavioral data obtained from the nine
11 measures on nine smokers.

12 So, again, this is an experimental study, right?

13 A Yes.

14 Q Involves nine measures on nine smokers, right?

15 A Let me check one thing here before we go.

16 Q Sure.

17 (pause in proceedings)

18 A It appears that these are experimental cigarettes,
19 as well, which is an important consideration. That's what I
20 was trying to determine.

21 Q All right.

22 A Okay, go ahead.

23 Q All right.

24 And it says: In terms of their results, that
25 the -- I'm going to go to the second -- or the third

1 sentence: The number of puffs taken per cigarette, the mean
2 smoke volume per puff and/or puffs -- I guess I misread
3 that. I apologize.

4 The number of puffs taken per cigarette, mean
5 smoke volume per puff and mean interpuff interval were not
6 significantly different on either cigarette whether first
7 puffs were included or not.

8 Do you have see that?

9 A Yes.

10 Q And again, for -- if I could approach our
11 demonstrative exhibit here.

12 THE COURT: Sure.

13 BY MR. PHILLIPS:

14 Q I recognize this is an experimental study. But
15 what he's looking at are some of the variables of smoking
16 within the cigarette, compensation within the cigarette,
17 right?

18 A He is looking at some of those variables in an
19 experimental setting with an experimental cigarette, right.

20 Q And he's concluding that when the smokers in that
21 study switched from a high tar to a low tar cigarette, he
22 didn't see, in that study, compensation, correct?

23 A That study of nine people didn't show
24 compensation.

25 Q All right.

1 A Correct.

2 Q All right. And that's one of the studies that
3 Philip Morris performed in looking at that question,
4 correct?

5 A That's one of the studies they performed in
6 examining the question of how experimental changes in
7 cigarettes might influence the intake of tar and nicotine.

8 Q Okay. And you understand that the purpose that
9 they were doing this was to try to find out how much
10 compensation would occur in commercial cigarettes, right?

11 A Well, actually, I think it was how they could
12 design cigarettes with an understanding of compensation.

13 Q All right.

14 A The purpose was to understand compensation so they
15 could put that understanding into how they designed
16 cigarettes.

17 Q And at least in this study, there was no
18 indication of changes in compensating within the cigarette,
19 right?

20 A These experimental cigarettes didn't show
21 compensation in this study.

22 Q All right.

23 Now, let's go to another exhibit, and this is the
24 one that you focused on in your testimony.

25 This is the 1975 Barbro Goodman study?

1 A Yes.

2 Q And let's go to the first paragraph of it, if we
3 can.

4 MR. DUMAS: Exhibit number?

5 MR. PHILLIPS: I'm sorry. This is Exhibit Number
6 153. I apologize. Plaintiff's Exhibit 153.

7 Q You're familiar with the study because you
8 testified on it extensively yesterday, right?

9 A That's right.

10 Q And you know that this was a study that --
11 actually, the study -- the description of the study in
12 detail is in a January 3, 1975, memo from the same author,
13 Goodman to Meyer, correct?

14 A No. I don't believe so.

15 Q Well, it says on January --

16 A I believe that was a preliminary study done by
17 this author to set up the study that was done here.

18 Q Well, it says: On January 3, 1975, a memo was
19 sent to you concerning smoker profiles collected in the
20 Marlboro/Marlboro Light study?

21 A Yes. And as I recall that data, it was
22 preliminary data intended to set up the study. But I could
23 be wrong.

24 Q Okay. Well, what that data -- if I were to tell
25 you that that 1975, January 1975 study, was the data

1 collection for this analysis, would you tell me I'm wrong?

2 A Well, certainly the discussion of that data was
3 quite different, and so I would be a bit surprised if it was
4 identical. But as I said, we could look at it and see.

5 Q Okay. Well, do you understand that this study in
6 September of 1975, involved essentially nine smokers?

7 A I understand that it involved nine smokers. And
8 as I understand what they wrote here, it says: Since that
9 time, we have been able to use the smoker Simulator in
10 determining a series of total particulate matter deliveries.

11 So that suggests to me that this is something that
12 occurred between those two periods in time.

13 Q Well, there is a difference between a smoking
14 Simulator, Dr. Burns, and the actual smokers from whom the
15 data was taken, right?

16 A One is a machine, the other a people.

17 Q All right. And what you understand is that they
18 took some data from nine smokers, and then they used that
19 data to run a smoker Simulator machine, isn't that what they
20 did?

21 A Well, to be clear, what they did is something that
22 we would have loved to have been able to do at that time,
23 which was to take and match the way someone used a cigarette
24 to the way the cigarette is smoked by machine. So you take
25 and you monitor with a variety of approaches the exact way

1 someone smokes: How long they puff, how deep they puff, how
2 big a volume they take, their interpuff interval. All those
3 issues. And then you take that and you program the machine
4 so it does exactly the same thing. And then you can get
5 from the machine the amount of tar that at least came into
6 the person's mouth with each of those cigarette smoking
7 patterns.

8 Q All right. So what you're telling us is that the
9 machine is programmed based on the data gathered from the
10 smokers, right?

11 A That's right.

12 Q And the results that are produced by the machine
13 are no better or worse than the data that's been gathered
14 from the smokers, right?

15 A I'm not sure what you're saying. The two are
16 based on one another, yes.

17 Q Exactly. And if the data that were gathered from
18 the smokers are very small or short term or incomplete or
19 inconclusive, then the results of the machine will be, as
20 well, correct?

21 A Well, a study is a study. Okay. It produces
22 data. It doesn't produce data that can automatically be
23 extrapolated or projected beyond the circumstances of the
24 study. But it produces valid information within that study.
25 You just have to be careful how far you take the

1 interpretation of that data.

2 Q That's exactly right. You have to be careful how
3 far you take the interpretation of that data; isn't that
4 right, Dr. Burns?

5 A That's right.

6 Q Okay. So if I were to tell you that this machine
7 in September 1975 was programmed based on smoking of nine
8 cigarettes by five smokers, with a high tar cigarette,
9 Marlboro, and then having those same smokers smoke nine
10 cigarettes with Marlboro Lights two weeks later, and to
11 measure that data, and then put that data in the machine,
12 and then run the machine, would that be inconsistent with
13 your understanding of this study?

14 A My understanding is that it was nine smokers. But
15 if you want to tell me that it was five, I'm perfectly
16 willing to accept that it was five.

17 Q Let me clarify. You make a good point.

18 There were five smokers who -- and what we're
19 concerned about are smokers who switch from a high tar to a
20 low tar cigarette, right?

21 A Yes.

22 Q That's the topic that's in this lawsuit, right?

23 A Well, it's one of them, I guess, yeah.

24 Q Okay. And you understand that there were nine
25 smokers, but four of them went from a low tar to a high tar,

1 five of them went from a high tar to a low tar, right?

2 A That's correct.

3 Q So the only people who did that, for purposes of
4 this important study, were five people smoking nine
5 cigarettes in a 12 week period, and then smoking nine
6 cigarettes in another two week period, right?

7 A The only ones who went in that direction, that's
8 correct.

9 Q And, therefore, because they were the ones who
10 were switching from high tar to low tar, all of the
11 information from this machine would be predicated on the
12 accuracy of that data from those five smokers, right?

13 A Well, you also look at the opposite direction, as
14 well.

15 Q Okay.

16 A So it's really based on nine people. That's a
17 modest number of people. That's correct.

18 Q And nine cigarettes is a modest number of
19 cigarettes, right?

20 A Well, not for this type of measurement. It is a
21 modest time interval over which to collect nine cigarettes,
22 yes.

23 Q In other words, it's short term, right?

24 A Well, yes. It was over in one month interval.

25 Q And, therefore, to the extent that the way that

1 they smoke the cigarette changes over time, this study
2 wouldn't measure that, right?

3 A No. Most of the studies suggest that the bulk of
4 the changes occur within the first couple of weeks. It
5 wouldn't look at the changes that occur between two weeks
6 and a year. But --

7 Q Well --

8 A -- but the bulk of the changes appear to occur
9 within the first two weeks.

10 Q Well, you're talking about what you know today,
11 Dr. Burns. In 1975, you didn't know that, did you?

12 A We certainly didn't, no.

13 Q All right. And neither did Philip Morris, because
14 this is a two week study, right?

15 A Well, I'm assuming that the reason they didn't do
16 it on one day was that they recognized the need to look at
17 the adjustments that occurred in compensation over a period
18 of time, and they selected the two week interval based on an
19 expectation that that would be a sufficient length of time
20 for much of the short term effects that had gone away.

21 Q Dr. Burns, if you were going to ask for a
22 compensation study today to determine whether smokers really
23 do either partially or fully compensate, you would never use
24 just nine smokers or just five smokers, and you would never
25 use just nine cigarettes to determine whether or not the

1 results are valid, would you?

2 A Depends on the question you're asking. If you're
3 asking the question as to what happens in a large
4 population, then you need a large number of people. If
5 you're asking a question about a specific experimental
6 variation, then it's very common that we do studies in five,
7 ten people. So it depends on the question you're trying to
8 ask of the experimental study.

9 Q Well, this was a study of commercial cigarettes,
10 right?

11 A Yes.

12 Q And it was not -- there wasn't any experimental
13 variable involved, other than going from high tar to low tar
14 or low tar to high tar, right?

15 A That's correct.

16 Q Okay. In any event, this important study didn't
17 appear to be important to -- this is Defense Exhibit 915 --
18 to Dr. Ryan a year later, did it?

19 A Well, you will have to show me so that I can --

20 Q I'm showing you Defense Exhibit 915.

21 If we can blow-up the summary, please, Mr. Walsh.

22 Let's just read this together because this is

23 Dr. Ryan, and he's reporting about the subject of
24 consumption, changes following reduction -- you have to pull
25 that up a little for me so I can read the re line, please.

1 I apologize.

2 MR. WOBBROCK: I could hand a copy of this to the
3 doctor.

4 MR. PHILLIPS: Certainly.

5 THE COURT: Certainly.

6 THE WITNESS: Thank you.

7 BY MR. PHILLIPS:

8 Q All right.

9 You can see that the subject of his memorandum --
10 and this is about a year later, right? 1976. Can you see
11 that?

12 A I see that it's 1976, and I'm reading the text of
13 it to help orient me.

14 Q Okay. Well, the topic was Consumption Changes
15 Following Reduction in Delivery Changes, do you see that?

16 A Yes. I see that that's the title.

17 Q And let's just read the summary together.

18 He says: We have been examining the effects of
19 delivery change on number of cigarettes smoked per day for
20 several years in the hope that we could support an intake
21 quota hypothesis based on tar and/or nicotine.

22 Let's just stop there. That's the intake quota
23 hypothesis that we saw referenced back in the 1971 study,
24 right?

25 A That's correct.

1 Q Okay, he goes on. He says: If an intake quota
2 could be demonstrated, this fact would go a long way towards
3 answering the question "Why do people smoke?", a question we
4 feel it is our responsibility to answer.

5 And then he goes on and he says: But to date, we
6 can offer no convincing evidence that a simple quota exists.

7 A That's correct.

8 Q To the contrary, our studies -- and he says
9 "studies", right? -- suggests that either smokers do not
10 change the number of cigarettes they consume when delivery
11 is lowered, or else they change by truly trivial amounts.
12 It appears that when the smoker switches from a full
13 flavored cigarette, like Marlboro or Winston, to a cigarette
14 in the low delivery range, he reduces his daily tar and
15 nicotine intake almost proportionately.

16 Did you read that?

17 A I read that.

18 Q Okay. Now, when he says "he reduces his daily tar
19 and nicotine intake proportionately", he's referring to the
20 FTC measures, isn't he?

21 A Well, he's referring to the method that he used to
22 make those measurements.

23 Q And the -- I want to talk about the
24 proportionate -- the proportionately. In other words, he's
25 saying: We know that from our studies that smokers, when

1 they go from a high tar to a low tar, do, in fact, reduce
2 their tar and nicotine intake proportionately. That's what
3 he's saying, right?

4 A But a proportion has to have two sides to it. It
5 has to have what the people did. You have to have a
6 measurement of what the people did, and you have to have a
7 measurement of what the cigarette yield was by the FTC
8 method. Both of those are necessary in order to make that
9 statement.

10 Q All right. Now, he talks about three studies that
11 he's reviewing that occurred over time, correct?

12 A Well, you have the advantage of me, counselor, in
13 terms of the detail in this.

14 Q All right.

15 A But I'm happy to try and catch up with you.

16 Q All right. Let me walk through with you,

17 Dr. Burns --

18 MR. WOBBROCK: Just a second, Your Honor. I think
19 it's only fair if we're going to ask the doctor
20 detailed questions about this study, let's give him a
21 minute to let him read it.

22 MR. PHILLIPS: Certainly.

23 THE COURT: There's correct, counsel.

24 THE WITNESS: Thank you.

25 MR. WOBBROCK: I'm trying to be helpful.

1 The Court Reporter is here, and maybe it would
2 save the jury some time if they use this opportunity
3 while the doctor is reading to switch, if that's what
4 they're about to do.

5 THE COURT: We can do that switch right now.
6 Let's switch Court Reporters, and if you guys want to
7 stand up and take a stretch break, we can. We'll just
8 switch Reporters and just keeping moving, and we won't
9 take a break into the jury room.

10

11 * * * * *

12 (Estelle Keating reports next portion of the proceedings)

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1 STATE OF OREGON
2 ss.
3 County of Multnomah
4
5

6 I, Charlotte A. Powers, Official
7 Court Reporter of the Circuit Court of the State of
8 Oregon, Fourth Judicial District, certify that I
9 reported in stenotype the foregoing proceedings in the
10 above-entitled case.

11 I further certify that my
12 stenotype notes were reduced to transcript form by
13 Computer-Aided Transcription under my direction.

14 And I further certify that pages 2
15 through 77 contain a full, true, and accurate record
16 of my stenotype notes.

17 Dated this 28th day of August,
18 2002, at Portland, Oregon.
19
20
21 -----

22 Charlotte A. Powers, RPR, CSR
23 Official Court Reporter
24 I certify this original/duplicate is valid only if it bears
25 my true signature and blue colored CSR seal.
Charlotte Powers

